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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,623	12/06/2001	Malcolm R. Schuler	90065.161701	3753

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EXAMINER

MARKOFF, ALEXANDER

ART UNIT	PAPER NUMBER
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1746

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DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,623

Applicant(s)

SCHULER ET AL.

Examiner

Alexander Markoff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 15 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The applicants amended the claim to recite "generating megasonic waves with a laminar flow in a cleaning liquid in a container". The original disclosure fails to recite such concept.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The applicants amended the claim to recite "generating megasonic waves with a laminar flow in a cleaning liquid in a container".

It is not clear how the term "laminar flow" is applied to waves.

This term defines a flow of liquids. See the citation of the Marian Webster OnLine Dictionary in the applicants Remarks and the following article as an evidence.

laminar flow

laminar flow *noun*

Nonturbulent flow of a viscous fluid in layers near a boundary, as that of lubricating oil in bearings.¹

It is absolutely not clear how this term is applied to waves. The specification fails to define what is referenced as "waves with a laminar flow".

5. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "laminar flow" in claim 15 is used by the claim to describe waves, while the accepted meaning is to described waves. The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

¹ *The American Heritage® Dictionary of the English Language, Third Edition* copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation; further reproduction and distribution restricted in accordance with the Copyright Law of the United States. All rights reserved.

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7. Claims 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Stanasolovich et al.

As to claims 13 and 14:

The method of the use of the apparatus referenced by Stanasolovich et al, as Prior Art is the same as claimed. See at least Figure 1 and the related description.

As to claim 15:

The operation of any embodiment of the cleaning apparatus of Stanasolovich et al and the apparatus, which is referenced by them, as Prior Art, comprises the claimed steps.

In any embodiment and in the Prior Art the holders 18, 56, 84 and 98 would disperse the waves.

Moreover, the wafers themselves would intercept and disperse the waves. As a result, the wafers would be exposed to the waves dispersed by other wafers.

Response to Amendment

8. The amendment filed 9/22/03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: The applicants have amended claim 15 to recite "generating megasonic waves with a laminar flow in a cleaning liquid in a container". The original disclosure fails to recite such concept.

Applicant is required to cancel the new matter in the reply to this Office Action.

Response to Arguments

9. Applicant's arguments filed 9/22/03 have been fully considered but they are not persuasive.

As to the rejection made under 35 USC 112(2):

The applicants have amended claim 15 to recite "waves with a laminar flow" and argue that claim 15 is in allowable form.

This is not persuasive. See rejections above for the detailed explanation.

As to the rejections made under 35 USC 102(b):

As to claim 13, the applicants argue that Stanasolovich et al do not disclose generating two parallel sets of megasonic waves and moving the wafers through the megasonic waves and transverse to the megasonic waves.

The examiner disagrees. The attention of the applicants is respectfully directed to Figure 1, referenced by Stanasolovich et al as Prior Art, and to the related description.

In the referenced embodiment Stanasolovich et al clearly show generating two parallel sets of megasonic waves and moving the wafers through the megasonic waves and transverse to the megasonic waves.

As to claim 15, the applicants have amended the claim to recite exposing the semiconductor wafers to the dispersed waves.

This limitation is addressed in the rejection above. The examiner's position is that: in any embodiment of Stanasolovich et al and in the Prior Art the holders 18, 56, 84 and 98 would disperse the waves in the same way as bar 72 of the instant invention; and that the wafers themselves would intercept and disperse the waves. As a result, the wafers would be exposed to the waves dispersed by other wafers.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Markoff whose telephone number is 703-308-7545. The examiner can normally be reached on Monday-Friday.

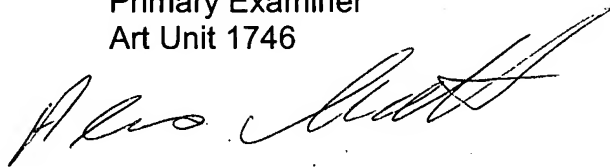
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P Gulakowski can be reached on 703-308-4333.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703--308-0651.

Alexander Markoff
Primary Examiner
Art Unit 1746

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A handwritten signature in black ink, appearing to read 'Alex Markoff', written in a cursive style.

**ALEXANDER MARKOFF
PRIMARY EXAMINER**